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AMSAT NEWS SERVICE
ANS-281

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor@amsat.org

In this edition:

* AMSAT Board of Directors Approves Eagle Communications Payloads
* More News From The 2006 AMSAT Space Symposium
* ARISS Plans for Expanded Role in Space
* PCSAT-1 Continues Operation
* AMSAT Awards
* Arianespace to WebCast October 12 Launch
* NASA Seeks Undergrads To Experiment In Lunar And Zero Gravity
* Square Mile Array Heading for Quiet RF Environment in Southern Hemisphere
* ARISS Status for the Week of October 2, 2006

SB SAT @ AMSAT $ANS-281.01
AMSAT Board of Directors Approves Eagle Communications Payloads

AMSAT News Service Bulletin 281.01
>From AMSAT HQ SILVER SPRING, MD.
October 8, 2006
To All RADIO AMATEURS
BID: $ANS-281.01

AMSAT's Board of Directors met on 5 October in San Francisco, CA and approved the following Eagle communications payloads:

+ A SSB/CW (etc.) transponder with uplink on U-band and downlink on V-band. System design has a goal that it be usable over 75% of the orbit by an AO-13 or AO-40 capable ground station.

+ A SSB/CW (etc.) transponder with uplink on L-band and downlink on S1-band (2.4 Ghz). An AO-13 or AO-40 capable ground station will be able to use this payload.

+ A low rate text message system, like SMS. It will operate on U/V-bands and be usable over 75% of the orbit by a small terminal on the ground.

+ These transponders will be implemented using Software Defined Transponders (SDX).

Eagle will also carry an advanced communications payload (ACP). Using advanced signal processing and RF techniques, the ACP will allow:

1) Voice communications on S2-band (3.4 Ghz) uplink and C-band (5.8 Ghz) downlink using a single 60cm dish. The satellite antennas will be

electrically steered to reduce spin modulation and allow use over 75% of the orbit.

2) An additional, fix-pointed, uplink will be available at L-band. This L-band uplink will require a separate uplink antenna at the ground station.

3) High rate data communications, such as streaming video, using a 2m dish on S2/C bands.

4) AMSAT will develop and make available an affordable ground segment for the ACP SYSTEM.

Additional information will be posted on amsat.org in the near future.

[ANS thanks the Eagle Design Team for the above information]

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SB SAT @ AMSAT $ANS-281.02
More News From The 2006 AMSAT Space Symposium

AMSAT News Service Bulletin 281.02
>From AMSAT HQ SILVER SPRING, MD.
October 8, 2006
To All RADIO AMATEURS
BID: $ANS-281.02

This is the week of the 2006 AMSAT-NA Space Symposium in San Francisco. Amateur satellite designers and operators gathered to hear presentations about the Eagle, AO-51, PCSat2, ANDE, Raft, Psat, a new SUNSAT, KiwiSat, SSETI-Express, SESO and ESMO Satellites, University CubeSats along with a discussion exploring future launch opportunities.

Eagle Technology presentations included antennas for space communi-cation, a proposed Eagle Digital Communications Payload, and the Software Defined Transponder for Eagle. Presentations also included discussions of the existing spectrum available for the Amateur Satellite Service along with threats from encroachment on these frequencies by unlicensed wireless consumer devices.

ISS Expedition 12 Cmdr. Bill McArthur, KC5ACR gave the Keynote Address at the AMSAT Annual Banquet on Saturday evening.

This gathering is the forum for the AMSAT-NA Board of Directors meeting the AMSAT membership annual meeting, ARISS-International Delegates meeting, ARISS SuitSat meeting, Satellite Frequency Coordinators meeting, and the annual Area Coordinators meeting.

After the annual meetings the leadership team is pleased to announce the AMSAT Officers for the upcoming year:

President	Rick Hambly, W2GPS
Executive Vice President	Lee McLamb, KU4OS
Vice-President Operations	Drew Glasbrenner, KO4MA
Vice-President Engineering	Bob McGwier, N4HY
VP of Marketing and User Services	(Position Open)
Secretary	Barry Baines, WD4ASW
Treasurer	Gunther Meisse, W8GSM
Manager	Martha Saragovitz

The meetings and presentations are in progress at press time. AMSAT plans to provide additional information in the days and weeks to come.

[ANS thanks the Symposium Committee for the above information]

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SB SAT @ AMSAT $ANS-281.03
ARISS Plans for Expanded Role in Space

AMSAT News Service Bulletin 281.03
>From AMSAT HQ SILVER SPRING, MD.
October 8, 2006
To All RADIO AMATEURS
BID: $ANS-281.03

ARISS, the Amateur Radio on the International Space Station program, an amateur radio project sponsored in North America by the ARRL, AMSAT, and NASA reported on the outcome of planning meetings held recently.

Sponsorship of the ARISS program is moving from NASA Headquarters to Johnson Spaceflight Center (JSC) in Houston. ARISS International Chair Frank Bauer, KA3HDO, ARISS International Secretary-Treasurer Rosalie White, K1STO, Deputy Chair, Mark Steiner, K3MS, and NASA ISS Ham Radio Project Engineer Kenneth Ransom, N5VHO recently held planning sessions with various JSC offices.

One future goal which will capture the imagination of many includes the exploration of an ARISS role in the "Moon, Mars and Beyond" initiative. They cited Amateur Radio's potential as a valuable tool to people living on the moon for several months at a time.

Amateur radio will continue to be available on the ISS. In addition to the exploration initiatives just beginning construction projects will continue to take place on the Space Station. While NASA foresees busy work schedules for the astronaut construction crews they also note that more astronauts will be available to get on the air.

[ANS thanks ARISS and ARRL for the above information]

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SB SAT @ AMSAT $ANS-281.04
PCSAT-1 Continues Operation

AMSAT News Service Bulletin 281.04
>From AMSAT HQ SILVER SPRING, MD.
October 8, 2006
To All RADIO AMATEURS
BID: $ANS-281.04

Since being recovered due to sufficient sunlight on its solar panels PCSAT-1 should remain NORMAL OPS for the next few weeks until it experiences an overload and resets. Then we lose it till December. The US Naval Academy Satellite Laboratory team requests that amateur radio users please adhere to these fundamental principles:

1) No unattended operations
2) No connections to or through PCSAT-1
3) UI digipeating and APRS packets only typically at 1 minute rates or so
4) Watch pcsat.aprs.org for live activity
5) Use the path of VIA PCSAT-1 or VIA ARISS
6) Minimize all packets after dark!

PCSAT-1 acts just like any terrestrial APRS digipeater. It willrespond
to all of the existing and legacy paths that are used on APRS. They are:
 RELAY
 WIDE
 WIDEn-N
 TRACEn-N
 and ARISS

If people want to keep track of their success on FINDU.COM, see:
http://pcasat.aprs.org then they should not use a n-N path and should
change their SSID so that their station call is unique for this space
application. Otherwise, as soon as they use the same station again on
terrestrial APRS, then the posit via the satellite will be overwritten.

Recent packets digipeated via PCSAT can also be viewed on-line at the
PCSAT url mentioned above. The web site also includes a map showing
the reported positions of stations digipeating APRS packets via PCSAT.

Enjoy PCSAT-1 and APRS! Make contacts, QSO, enjoy!

[ANS thanks Bob, WB4APR and the US Naval Academy Satellite Laboratory
 for the above information]

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SB SAT @ AMSAT $ANS-281.05
AMSAT Awards

AMSAT News Service Bulletin 281.05
>From AMSAT HQ SILVER SPRING, MD.
October 8, 2006
To All RADIO AMATEURS
BID: $ANS-281.05

Bruce, KK5DO AMSAT Director Contests and Awards say this week
congratulations go out to all of the following.

We would like to welcome the following to the satellite community.
They have made their first satellite contact and are now members
of the AMSAT Satellite Communicators Club.
Tim Tapio   K4SHF
Neven Mrduljas   9A5YY
Richard Wiggin   N1XED
Chow Chee Onn   9M2CCO

AMSAT Satellite Communications Achievement Award
Amir Findling   K9CHP #435
William McArthur KC5ACR #436 from space
Dale Gates   WA4AEJ #437
Richard Wiggin   N1XED #438
Karl Doepel   W3AFE #439

AMSAT Sexagesimal Award
William McArthur KC5ACR #141 from space

South Africa Satellite Communications Achievement Award
Dale Gates   WA4AEJ #US97
Richard Wiggin   N1XED #US98
Karl, Doepel   W3AFE #US99

To see all the awards visit http://www.amsat.org or http://www.amsatnet.com

[ANS thanks Bruce, KK5DO for the above information]

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SB SAT @ AMSAT $ANS-281.06
Arianespace to WebCast October 12 Launch

AMSAT News Service Bulletin 281.06
>From AMSAT HQ SILVER SPRING, MD.
October 8, 2006
To All RADIO AMATEURS
BID: $ANS-281.06

The fourth Arianespace launch of the year will boost three satellites into orbit:
 + DIRECTV 9S for American operator DIRECTV, Inc.
 + OPTUS D1 for the Australian operator OPTUS
 + LDREX-2 for the Japan Aerospace Exploration Agency.

The launch window will be between 20:56 to 21:56 UTC on October, 12.

The webcast will be available at the following link:
http://www.videocorner.tv/index.php?langue=en
(Starting 15 minutes before lift-off).

Video streaming will be available in RealMedia and WindowsMedia formats.

[ANS thanks Jean Paul, FR5CY for the above information]

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SB SAT @ AMSAT $ANS-281.07
NASA Seeks Undergrads To Experiment In Lunar And Zero Gravity

AMSAT News Service Bulletin 281.07
>From AMSAT HQ SILVER SPRING, MD.
October 8, 2006
To All RADIO AMATEURS
BID: $ANS-281.07

NASA is calling on college undergraduates interested in performing reduced gravity experiments onboard the agency's "Weightless Wonder" aircraft to submit their proposals by Monday, Oct. 30.

Each proposal will be evaluated for technical merit, safety and an outreach plan. The selected proposals will be announced Dec. 11 and flown in 2007. Selected teams may also invite a full-time, accredited journalist to participate with them to document the experience.

The Reduced Gravity Student Flight Opportunities Program at NASA's Johnson Space Center, Houston, has given undergraduate teams the chance to research, design, fabricate, fly and evaluate reduced gravity experiments annually since 1995. This will be the first time students can design their experiment for lunar gravity, which is one-sixth of Earth's.

NASA's modified McDonnell Douglas DC-9 jet aircraft will give flyers the feel of space, as it performs a series of steep climbs and freefalls over the Gulf of Mexico, creating multiple periods of reduced gravity. Each parabolic maneuver produces about 25 seconds of weightlessness, and by changing its flight path, the jet can produce periods of lunar gravity.

[ANS thanks NASA and SpaceDaily.com for the above information]

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SB SAT @ AMSAT $ANS-281.08
Square Mile Array Heading for Quiet RF Environment in Southern Hemisphere

AMSAT News Service Bulletin 281.08
>From AMSAT HQ SILVER SPRING, MD.
October 8, 2006
To All RADIO AMATEURS
BID: $ANS-281.08

Australia and Southern Africa have been short-listed as the countries to host the Square Kilometre Array (SKA), a giant next-generation radio telescope being developed by scientists in 17 countries.

The SKA will be a set of thousands of antennas, not a single giant instrument, spread over 3000 kilometres, but with half of the antennas located in a central region 5 kilometres across. The SKA will be 50 times more sensitive than the most powerful radio telescopes we now have. It will peer deep into the cosmos to pick up signs of the first stars and galaxies to form after the Big Bang. If there are extra-terrestrial intelligences out there in the Milky Way with airport or ionospheric radars, the SKA will detect them.

For Australia, the core site is proposed to be at Mileura station, about 100 km west of Meekathara in Western Australia. Other dishes would be distributed over the Australian continent with the possibility of extension into New Zealand. In Southern Africa, the central location would be at the Karoo site in the Northern Cape region of South Africa, about 95 km from Carnarvon, with further dishes located in South Africa itself and in neighbouring African countries.

A key requirement of the core site is that there must be a very low level of man-made radio signals, because interference will mask the faint cosmic radio waves the telescope is designed to detect. South Africa and Australia are both making excellent progress towards protecting these unique environ-ments with radio-quiet zones that will limit the use of radio transmitting equipment.

Further analysis of the short-listed sites will now be carried out, with the final decision on which of the two sites will host the SKA expected towards the end of the decade.

For photos and the full story see:
http://www.universetoday.com/2006/10/02/giant-radio-telescope-may-go-to-aust
ralia-or-africa/

[ANS thanks UniverseToday.com and the Jodrell Bank Radio Observatory for the above information]

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SB SAT @ AMSAT $ANS-281.09
ARISS Status for the Week of October 2, 2006

AMSAT News Service Bulletin 281.09
>From AMSAT HQ SILVER SPRING, MD.
October 8, 2006
To All RADIO AMATEURS
BID: $ANS-281.09

1. Swiss School Contact Update

On Friday, September 22, Thomas Reiter, DF4TR, spoke with students from the Gymnase Intercantonal de la Broye in Payerne, Switzerland. The students gathered at the Musee de l'aviation militaire, the Swiss Air Force Museum. This was a highly publicized event and was attended by many VIPs including representatives from education, ESA and the Swiss Astronautics Society as well as Swiss astronaut Claude Nicollier, HB9CN. It received extensive media coverage from numerous newspapers, television stations (Nord Vaudois, Suisse Romande) and radio stations (Fribourg). The video was streamed over schoolnet.ch/ariss. It is estimated that approximately 650,000 heard of the contact via the radio and television broadcasts. For more details on the contact, go to: http://www.ariss-eu.org/2006_09_27.htm

2. Upcoming School Contacts

The ARISS team continues to work on scheduling the Expedition 14 school contacts.

3. ARRL Article on Three ARISS Contacts

ARRL wrote an article covering the three contacts made from the ISS on September 22. "Civilian Space Traveler, Astronauts Pull Off ARISS Ham Radio Triple Header" may be found at: http://www.arrl.org/news/stories/2006/09/27/101/?nc=1

4. School Teacher Makes General Contacts with ISS

A teacher (callsign N8MS) from Coloma Junior High School, located in Southwest Michigan, had an unscheduled contact with the International Space Station on Tuesday March 21, 2006 when Bill McArthur answered 12 of his students' questions. His class was also able to contact Anousheh Ansari during her stay on the ISS and have her answer a few questions. The audio from his most recent contact may be heard on Anousheh's space blog, http://spaceblog.xprize.org/2006/09/28/n8ms-ham-radio-contact/

5. Arizona Class Listens to Space Participant on Radio

A teacher from Pueblo Magnet School in Tucson, Arizona wrote to say that he and his students listened to space participant Anousheh Ansari with a very simple radio station, and could hear her for a short while, although they did not connect. He felt this opportunity of hearing someone on the Space Station motivated his students and that it was a very good lesson for them in tracking space vehicles.

6. ARRL Article on Expedition 13

ARRL posted a short story covering Expedition 13 crew members returning to Earth. See: http://www.arrl.org/?artid=6830

[ANS thanks Carol, KB3LKI for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

73,
This week's ANS Editor,

JoAnne Maenpaa, K9JKM